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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,785	12/07/2001	David Keith Bowen	032516-002	7963

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EXAMINER

KIKNADZE, IRAKLI

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/004,785

Applicant(s)

BOWEN ET AL.

Examiner

Irakli Kiknadze

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In response to the Office action of February 26, 2003 the Amendment has been received on May 27, 2003.

Claim 6 has been amended.

Claim 17 has been added.

Claims 1-17 are currently pending in this application.

Response to Arguments

2. Applicant's arguments, see pages 2-5, filed May 23, 2003, with respect to the rejection(s) of claim(s) 1, 5 and 10 under 35 U.S.C. §102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Bowen et al (US Patent 5,588,034).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowen et al. (US Patent 5,588,034).

With respect to claims 1 and 2, Bowen discloses an X-ray topographic system (110) comprising: an X-ray generator (11) for producing a beam of X-rays directed towards a sample location; and a detector (120) positioned to receive X-rays deflected by a sample (16) at the sample location, the detector (120) comprising an electronic X-ray detector having an array of pixels corresponding to the beam area at the detector (column 4; lines 1-17; Fig. 3; claims 1 and 2). The beam has a divergence of up to 20 milliradians (column 1; lines 45-65 and column 4; lines 35-42).

With respect to claims 3-5, an X-ray optic interposed between the X-ray generator and the sample location, and arranged to receive the beam and to transmit the X-rays (15) as a substantially parallel beam (Fig. 3). The detector (120) is positioned to receive deflected X-rays transmitted through the sample or reflected from the sample (16) (column 2; lines 52-67).

With respect to claims 6 and 7, the X-ray generator is adapted to produce a source spot size of 100 μm or less (column 1; lines 59-61). The system resolution is about 25 μm (column 4; lines 7-10).

With respect to claim 10, the detector (120) is a charge-coupled device.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 8, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen et al. (US Patent 5,588,034).

With respect to claims 7 and 17, Bowen is silent about optimum range of positioning the detector (120) or the source (11) relative to the sample (16). It would have been obvious to one of ordinary skill in the art at the time invention was made to optimally position the detector and the source relative to the sample, since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or working range involves only routine skill in the art. In re Aller, 105 USPQ 233.

With respect to claims 8 and 9, Bowen discloses the collimator (112) to produce a plurality of parallel collimated beams but fails to disclose a lobster eye optic comprising a number of parallel, X-ray reflective plates. It would have been obvious to one of ordinary skill in the art at the time invention was made to substitute the lobster eye optic with the X-ray collimator because it appears that invention performs equally well with the X-ray collimator producing the plurality of parallel collimated beams.

7. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen et al. (US Patent 5,588,034) in view of Carpenter (US patent 5,418,828).

With respect to claims 11-16, Bowen generally shows all that is disclosed except for stepping means for producing stepwise motion between the system and a sample to be inspected. Carpenter shows stepping means (28) for producing stepwise motion

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between a system and a sample to be inspected (10") (Fig. 3) to obtain two-dimensional imaging information (column 5; lines 11-17). It would have been obvious to one ordinary skill in the art at the time invention was made to provide the stepping means of Carpenter with the system of Bowel to produce relative stepwise motion for obtaining the imaging information of the sample to be inspected.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is (703) 305-6464. The examiner can normally be reached on M-F(8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Irakli Kiknadze
August 1, 2003



DAVID V. BRUCE
PRIMARY EXAMINER